



### Construction

Submersible borehole pumps for 4" wells (DN 100 mm), and 6" (DN 150 mm), with external jacket in stainless steel AISI 304 and stages in polycarbonate for 4SD pumps and in noryl for 4SDF, 6SD, 6SDN pumps.

### Impellers

radial floating impellers	4SDF 16, 22, 36, 46, 54
radial impellers	4SD 31, - 6SDN 12, 16, 21
mixed flow impellers	4SD 10, 15 - 6SD 18, 19, 20

**Connection:** screwed connection ISO 228.  
Delivery casing with built-in non-return valve.

### Applications

For water supply.  
For civil and industrial applications.  
For fire fighting applications.  
For irrigation.

### Operating conditions

Liquid temperature: - up to a 35 °C for 4" motors  
- up to a 25 °C for 6-8-10" motors.  
Max. sand quantity into the water: 150 g/m<sup>3</sup> (300 g/m<sup>3</sup> high percentage of solids and sand).  
Continuous duty.

### Rewindable motor CS series

2-pole induction motor, 50 Hz (n ≈ 2900 rpm).  
Sized for connection to the pumps according to NEMA Standards.  
Standard voltages:  
- single-phase 230 V up to 2,2 kW for 4" motors.  
- three-phase 230 V; 400 V, for 4" motors.  
- three-phase 400 V; 400/690 V, for 6" motors.  
Voltage tolerance : +6% / -10%.

In order to limit both current and torque at each starting, for rated motor powers equal to or higher than 7.5 kW, one of the following types of starting is necessary: star/delta, soft starter, stator impedance or autotransformer.

The electropumps 4SD31, 4SDF series comply with the European Regulation no. 547/2012.

### Materials

Components	Part Nr.	4SD, 4SDF	6SD, 6SDN
External jacket	14.02	Cr-Ni steel	AISI 304
Stage casing (4SDF)	25.02	Cr-Ni steel	AISI 304
Stage casing (4,6SD)	25.02	Polycarbonate (Lexan 141 R)	GFN2V* (NORYL®)
Diffuser	26.00		
Impeller	28.00	GFN2V* (NORYL®)* for 4SDF	
Wear ring		Cr-Ni steel	AISI 304
Shaft	64.00	Cr steel	AISI 430 F
Delivery casing	12.01	Cr-Ni steel	Bronze
Suction lantern	32.02	AISI 304	G-Cu Sn 10 EN 1982
Bearing bush	12.03-12.30	Thermoplastic	Rubber
Strainer	15.50	Cr-Ni steel	AISI 430
Screws		Cr-Ni steel	AISI 304

\* Trademark of General Electric

Components	4CS	6CS-R
External frame	Cr-Ni steel	AISI 304
Shaft	Cr-Ni-Mo steel AISI 316 (shaft end)	Cr steel AISI 431
Thrust bearing	Oil wetted ball type	Oscillation pads
Bearing bush	Oil wetted ball type	Graphite

### Operating conditions motor

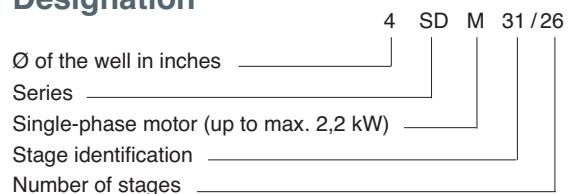
Motor	Max. Liquid temperature	Cooling: minimum flow velocity	Max. starts per hour	Motor P2
4CS	35 °C	0,08 m/s	20	all types
6CS-R	30 °C	0,1 m/s	15	4÷11 kW
		0,2 m/s	15	13÷15 kW
	25 °C	0,2 m/s	15	18,5 kW
		0,2 m/s	13	22÷30 kW

Insulation class F for 4" motors, class E for 6" motors.  
Motor suitable operation with frequency converter .  
Protection IP 68.

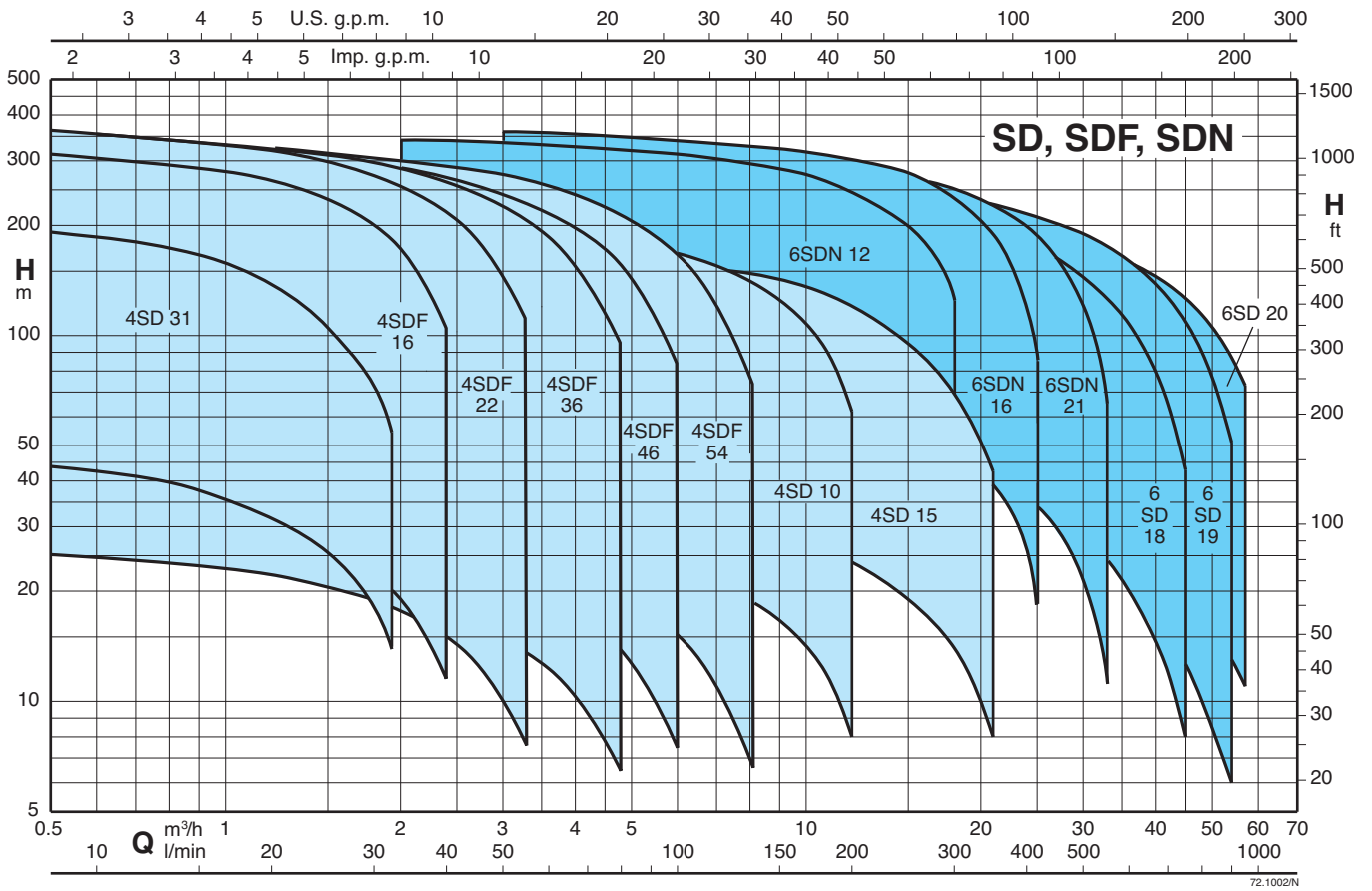
### Special features on request

- Other voltages.
- 60 Hz frequency.
- Other temperatures.
- Encapsulated motor **FK series**.

### Designation

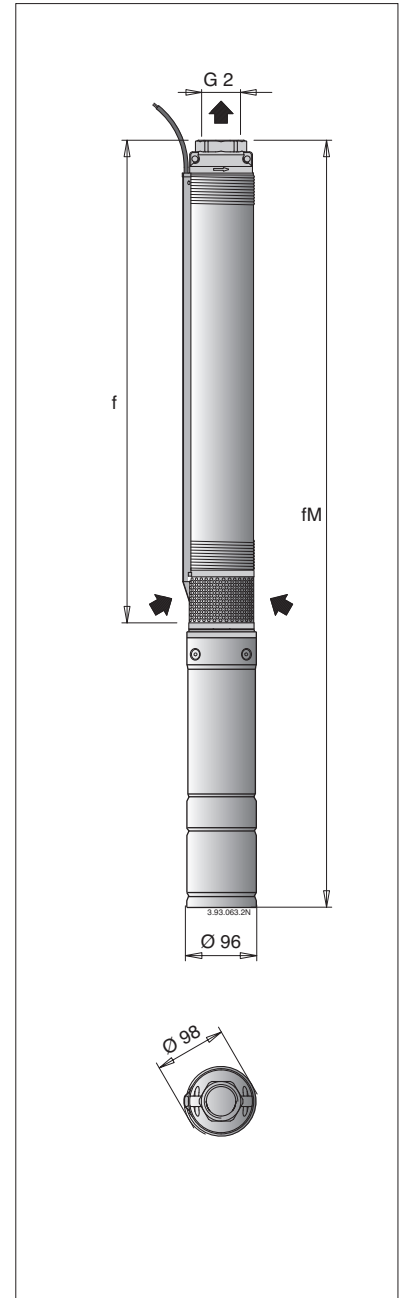
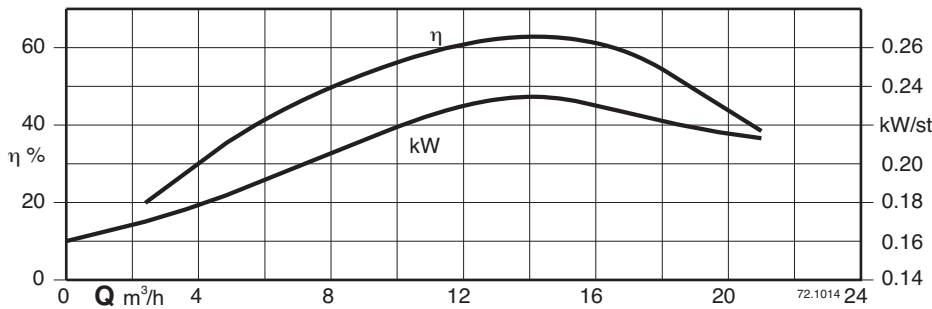
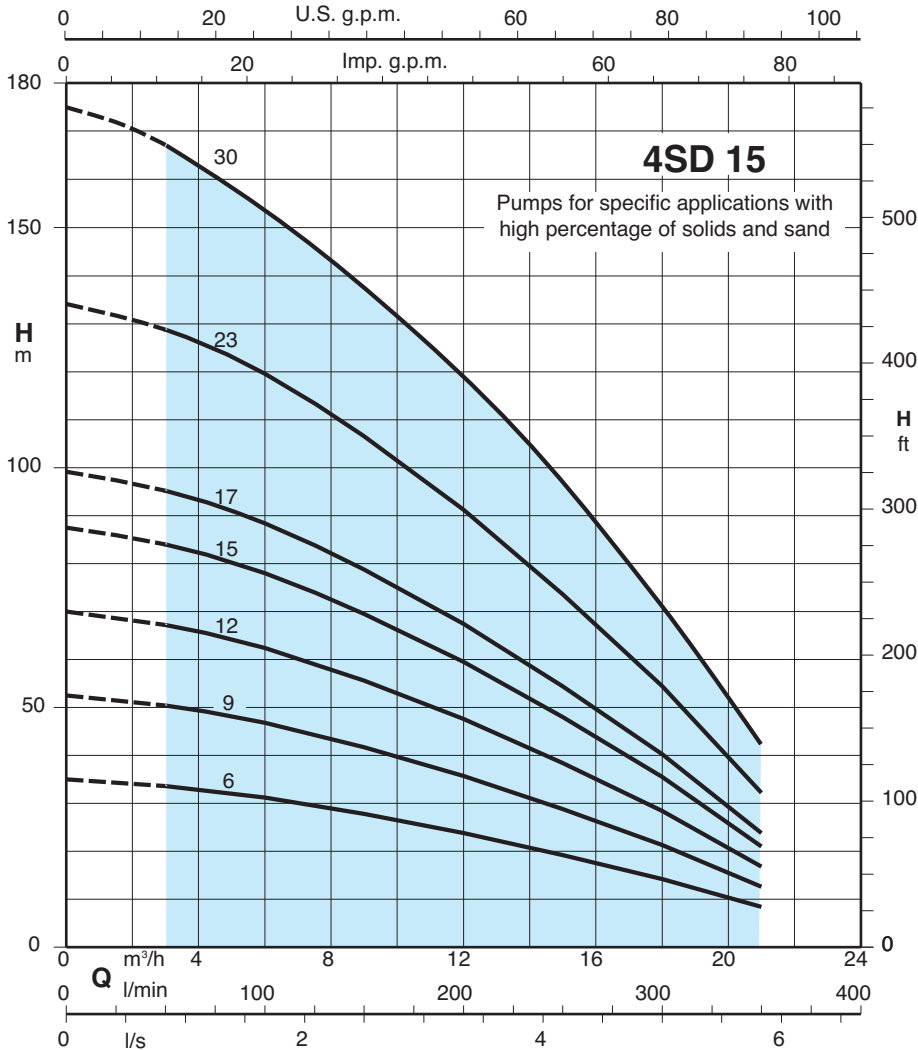


Coverage chart  $n \approx 2900$  rpm





### Characteristic curves, performance $n \approx 2900$ rpm, dimensions and weights



	3~ 400 V (380-415) 50 Hz A	1~ 230V * Capacitor P1 450 Vc A	* µF	kW	P2 kW	HP	Q														4SD		4SDM		
							n ≈ 2900 rpm														f	fM	kg	fM	kg
							H m														mm	mm		mm	kg
							3	3,6	4,8	6	7,2	8,4	9,6	10,8	12	15	18	21							
							50	60	80	100	120	140	160	180	200	250	300	350							
4SD 15/6EC	4,2	4SDM 15/6EC	11,2	60	2,33	1,5	2	33	33	32	31	30	29	28	26	24	19	14	8	755	1202	15,6	1222	18,5	
4SD 15/9EC	5,5	4SDM 15/9EC	14,7	70	3,27	2,2	3	50	49	48	47	45	43	42	38	36	29	21	13	988	1390	33	1505	30,2	
4SD 15/12EC	7,4					3	4	67	66	64	62	59	57	56	51	48	38	28	17	1299	1780	34,3			
4SD 15/15EC	9,4					4	5,5	84	83	81	78	74	71	69	64	59	48	35	21	1601	2147	40,6			
4SD 15/17EC	9,4					4	5,5	95	94	92	88	84	81	79	72	67	54	40	24	1756	2302	41,4			
4SD 15/23EC	13					5,5	7,5	129	127	124	120	114	109	107	98	91	74	54	32	2291	2937	49,4			
4SD 15/30E	18,8					7,5 <sup>1)</sup>	10 <sup>1)</sup>	168	166	162	156	149	142	140	128	119	97	70	42	2836	3610	62			

P1: Max. power input    P2: Rated motor power output    \* Only for single-phase motor 230 V - 50 Hz (on request)    Tolerances according to UNI EN ISO 9906:2012

<sup>1)</sup> Franklin motor